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(54) POLYGLYCEROL COMPOSITION AND  
PRODUCTION THEREOF

(57) Abstract:

**PURPOSE:** To obtain the subject composition, having a specific hydroxyl value and excellent in heat resistance and water solubility with a specific content of monomer and lower content of dimer than that of trimer by subjecting glycerol to dehydrating condensation in the presence of a catalyst under specific conditions.

**CONSTITUTION:** A catalyst, preferably an alkaline catalyst is added to glycerol and reaction is preferably carried out at  $\leq 240^{\circ}\text{C}$ , preferably at  $220\text{--}235^{\circ}\text{C}$  tem-

perature under  $\leq 759\text{mmHg}$  pressure to afford a polyglycerol composition, consisting of a mixture of glycerol polymer having 845-1015 hydroxyl value and  $\leq 2\%$  content of glycerol (monomer) in the aforementioned mixture and a content of diglycerol (dimer) lower than that of triglycerol (trimer). Since the content of low-molecular weight substance, such as mono- to diglycerols, or cyclic substances, is low with a narrow molecular weight distribution, the aforementioned composition is good in heat resistance, excellent in water solubility and useful as a humectant, thickener, plasticizer or a raw material for surfactants, etc.

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